

Digitization of Media Broadcast in Nigeria: The Journey so far and Challenges

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Abstract- The course for digitization presently governs the global media industry. Virtually all countries in the world have devoted enormous resources to see their broadcast media switch from analogue to digital technologies. Viewing the immense prospects of this technological revolution, the ITU has set 2015 for the entire broadcasting stations in the world to go digital. While a good number of First World countries have visibly accomplished their digital migration, most Third World nations including Nigeria are still struggling to meet up with this global digital revolution. In view of this situation, it appears interesting to explore literature on digitization and examine the extent to which the Nigerian broadcast media has been digitized. This paper assesses the strategies initiated by both the Nigerian government and other major actors of the broadcast media industry in Nigeria, in view of accomplishing the complex digitization scheme. It argues that Nigeria's march towards complete digitization is still on. A number of milestones have been recorded including the definition of a legal and operational framework for the digitization process, the introduction by multiple media houses of webcasting and the entrance in the country's broadcasting industry of cable and satellite pay TV operators. Despite these considerable efforts, there is still much to be done, especially in the domain of sensitization of Nigerian audiences about the technical and financial implications of digitization. The paper identifies a number of challenges to the process of digitization in Nigeria. These include the lack of fund, the lack of skilled manpower, knowledge gap (poor audience sensitization over the digitization process), the slow elaboration of a working legal framework for digitization process and the apparent lack of enthusiasm from the government among others. It concludes by recommending a number of strategic actions that may help surmount challenges being identified in the paper.

Keywords: *Digitization; Digitized Era; High Definition Television; Cable TV; Nigerian Broadcast Media; Analogue Transmission.*

I. INTRODUCTION

The international media landscape is currently witnessing a digital revolution triggered principally by the internet and the digital technology. This revolution is manifested by the novel and formidable ways in which information is stored and transmitted in today's media environment. Having visibly found themselves in uncharted waters, the traditional mass communication media have promptly designed impressive and fruitful strategies to cope with such a drastic development: with some trepidation, they have adapted to the digital age. Television and radio programs have, for instance, developed blogs, facebook pages and webcasting as elongations or complementary forms of classical broadcast exercises; meanwhile newspapers that hitherto existed exclusively on paper, now exist in both paper format and digital form. Newspaper and magazines now intensify their presence in the Internet through the designing of informative and entertaining web sites. Similarly, music and films which were previously

distributed solely on tape or disk and videocassette respectively, are now downloaded in bits form (music or film files) on the internet, bypassing the various recording companies and often violating copyright laws.

In the international broadcast industry, this multifaceted revolution has come to be captured by the concept of digitalization, which is the transition or shift from the analogue to the digital technology. It is actually hoped that as a serious and fruitful innovation, digitalization will positively transform the scope of radio and television broadcasting in the whole world and in view of such a great promise or prospect, the International Telecommunication Union (ITU) fixed the deadline for the total switchover of all broadcast UHF channels from analogue to digital at June 17, 2015. The same organization equally set 2020 to be the deadline for all VHF channels to go digital. The ITU agreement states that the transition from analogue to digital is to be based on the following objectives:

- (i) Improving coverage of digital TV transmission;
- (ii) Ensuring that bandwidths are available for wireless broadcasting services;
- (iii) Enhancing sound and picture quality in particular HDTV and
- (iv) Enabling more channels (additional content) and given unfettered access to digital radio transmission.

ITU's project to advocate and realize the digitalization of the global media broadcast also rests partly on the prospect that "digitalization of broadcasting by 2015 represents a major landmark establishing a more equitable, just and people-centered information society. The digital switchovers will leap-frog existing technologies to connect the unconnected in the undeserved and remote communities and close the digital divide" [1]. In reaction to this well conceived and appealing program, all the countries of the world developed individual strategies and calendars of activities in order not to be left out (of the digitalization scheme). As early as 2012, a considerable number of first world countries notably the United Kingdom and the USA had already accomplished their switchover from analogue to digital [2-4]. Surveying most African countries with respect to effective digitalization of media broadcast, Akinreti *et al* note that the Kenyan government has raised the bar for other countries of the continent. They quote Obam Daniel, the country's National Communications Secretariat as stipulating that "Kenya had adopted a phased migration, which would see 10 cities switching over between January this year [2013] and June 2014. As part of the plan, Nairobi and its environs would migrate on December 13, 2013" [4, p.90]. Though impressive progress has been made by a number of African countries notably Kenya, Mauritius, Tanzania and South Africa, a lot still needs to be accomplished to actually provide a platform for the other African countries to totally migrate from the traditional or analogue to the digital format of broadcasting.

On her part, Nigeria earlier set June 17, 2012 as her switchover date and later postponed this date first to January 1, 2015 and recently to December 2017. A number of critics have, since the year 2000, expressed skepticism vis-à-vis Nigeria's efforts towards the digitalization of her broadcast industry. Relatively alarmist observers such as Oshodin equated Nigeria's digital broadcast migration to a "mirage" while other critics viewed the process as being very slow [5, p1; 6]. In tandem with this observation, Ihechu and Uche pointedly note that:

It has been observed that the Nigerian Ministry of information and Communications, through its agency, National Broadcasting Commission, NBC, look confident on successful transiting from analogue to digital by the end of 2012. But a question needs to be looked at: are Nigerians complying with the demands of this new technology? A careful look at the unfolding events suggests that both broadcasters and consumers do not have the basic information required to achieve the feat. This submission is based on the fact that most of the television and radio sets used today are not digital-compliant. [7, p.38-39]

However, a number of critics viewed the country's strategy with optimism. Ekeh, for instance, praised the first calendar adopted by the Nigerian Government for the digital broadcast migration [8, p.1]. He passionately argued that "Nigeria is ahead of most African countries in the march towards 2012 switchover date as well as in the state of the industry". To accentuate its seriousness on the digitalization scheme, the Nigerian government has remarkably made a number of moves to meet ITU's deadline for digital broadcast migration. This paper attempts to explore and assess these moves. It equally examines some of the major challenges that impended – and which still impend – the effective realization of the scheme.

II. THEORETICAL FRAMEWORK

This paper is anchored on two theories namely Roger Filder's Mediamorphis theory and the modernization theory. Conceptually speaking, the mediamorphis theory is composed of two terms "media" and the short form of the term "metamorphism". It seeks to describe the manner in which the media is circumstantially transformed from a less to a more sophisticated state, to meet a number of complex contemporary needs. As Anaeto *et al* put it, the mediamorphis theory is centered on "the transformation of communication media usually brought about by the complex interplay of perceived needs, competitive political pressures, social and psychological innovations" [9]. In line with this, Watson notes that practically all technological change in the field of mass communications has had what one might describe as "a hands-around-the globe effect [10, p.26]. By operating digitally, the computers have for instance overridden the differences of national languages; meanwhile cables and satellite are networked with computers to cross national boundaries. According to the mediamorphis theory, the present sophisticated nature of the media is the product of systemic emanations from older ones. The media in effect do not transform spontaneously and independently, but stem their dominant traits from their previous versions. As Watson insightfully notes: "what were originally separate communication systems – telecommunications and broadcasting – have converged along the same fiber-optic wires to offer multiple services. The same box of tricks can offer us telephonic, televisual, computing, games-playing facilities, each of them linked to a wired world which advocates of the new technologies claim will be limitless in scope" [10, p.26].

The modernization theory on the other hand proposes that Africa's state of underdevelopment is the consequence of Africans' lack of – or insufficient access to – literacy and media technology. According to this theory, Africa's development passes through the systematic "de-oralization" of Africa and through technology transfer from the West, "allowing Africa to 'catch-up' with the modernized, electronically mediated world" [11, p.44]. In line with this theory, recent technological breakthroughs such as the internet, the World Wide Web (WWW) and the digitalization of media broadcast are a necessary tool and stage for Africa's development in all sectors of life [12]. In line with this, a communiqué issued at the Africast 2008 biennial conference of African broadcasters in Abuja, recommends that African countries should actively participate and benefit from digitalization on the basis that "digitalization of broadcasting is not only necessary but imperative in Africa, given its potentials of revolutionizing the media and communication activities within the continent" [13, p.30].

III. CONCEPTUAL FRAMEWORK

Digitization is a broad concept used in discourse on various types of media (print and electronic). It is used to denote a process involving the processing of information supplied and scored in the form of binary digits. In tandem with this, Dominick defines digital technology as a system that encodes information – sound, text, data, graphics, video – into a series of on-and off pulses that are usually denoted as zero and ones [3, p.65]. Once digitized, the information can easily be duplicated and transported at extremely low costs. Digitalization therefore involves the representation of an analogue signal, object, sound, image, document among others by a discreet set of zeroes and ones. Negroponte cited by Dominick refers to the process as a phenomenon in which atoms give way to bits. He explains that: "traditionally, the mass media delivered information in the form of atoms: books, newspapers, magazines, CDs, and DVD's are material products that have weight and size and are physically distributed [...] This is rapidly changing [as] the slow human handling of most information in the form of recorded music, books, magazines, newspapers and videocassettes is about to become the instantaneous transfer of electronic data that move at the speed of light. In short, atoms give way to bits" [3, p.65].

Digitization – particularly with respect to television broadcasting – could equally be viewed as an enhanced viewers experience facilitated by a number of tools such as the electronic program guide (EPG), the subtitling, additional language options and interactive services such as weather and sports. All these indicate that digitalization is regarded as a revolution in mass media in general and radio and television broadcast in particular. There exist two distinct digital formats namely the High-definition television (HDTV) and the Standard Definition Television. The first is a wide screen format featuring an ultra clear high resolution picture with superior sound while the latter is a format which makes it possible to broadcast up to six channels on the same frequency space. Though Standard

Definition Television images are not as sharp as those of the HDTV, they are very superior to existing television images. It is equally important here to stress the difference between the high definition television (HDTV) and the digital television (DTV). The HDTV is the highest quality of DTV. High definition TV uses the wide-screen aspect ratio (16:9) and others, approximately four times the resolution of a standard definition system. It is equally conceived for large displays of over one meter measured diagonally. Receivers therefore need a Set-Top Box (a device which is plugged into a television set in order to convert signal to digital) to be able to receive signal.

In digital television broadcasting, the signal can be transmitted in four distinct ways namely (i) cable, (ii) satellite, (iii) digital terrestrial television and (iv) telephone connection (DSL). Cable transmission is very versatile and accommodating (as far as the number of channels it can transmit). In effect, it has the capacity to transmit over 200 digital television channels to viewers at home. It can equally provide fast Internet access and standard telephone connection. The transmission standard applied in cable broadcasting is referred to as “cablecast”. Satellite transmission on the other hand has the capacity to transmit 100 channels. It is a one way digital transmission service whose transmission standard is referred to as “open TV”.

The digital terrestrial television broadcast is based on a network of land based transmitters. It is equally a one way transmission in which the broadcast signals are received by an antenna. The transmission standard used in this form of broadcast is referred to as “DVB-T”. In the context of transmissions done through the telephone connection (DSL), the viewer is offered the possibility of choosing a specific television program which will be transmitted to him (at his home). This type of broadcast is enabled by the fact that in most developed countries, the bandwidth of telephone services has remarkably increased to the point of being suitable to also convey television signal.

In radio, there is also the High definition (HD) format which is a service which enables and improves the signal quality of terrestrial radio stations. HD radio has the capacity to enhance FM stations to produce sound of high fidelity, that is sound which will be as good as CD. Further, this format can enable AM station sounds to be as good as current FM stations. Digitalization increases format selection, improves sound quality of radio broadcast, eliminating statics, hiss, pops and fades and offering data display capabilities on receivers. It equally opens up opportunities for multicasting: broadcasting multiple high quality channels one frequency [14, p.4]. Comparing the analogue radio to the digital format, Rodman contends that: “in traditional analogue radio, an electronic waveform represents the sound on a carrier wave. Such a waveform carries static and easily corrupted signal. In digital radio, transmitted sounds are assigned numbers (digits) that take up less air space than analogue waves [...] Digital signals can also result in crisp, clear signal” [15, p.236].

Given the important role of digitalization in the effective functioning of broadcasting outfits in the contemporary world, most countries have made serious moves towards complying with ITU’s deadline for complete switchover to digital. It is important at this point to x-ray steps taken by the Nigerian Government to digitize its broadcast media.

IV. DIGITALIZATION OF MEDIA BROADCAST: THE NIGERIAN EXPERIENCE

The digitization of the Nigerian media space could be viewed as a relatively recent phenomenon, though Tsaior traces its history to the 1990s with the internet presence of the defunct Nigerian tabloid *Post Express* [16, p.11]. Not until the second half of the 2000’s, the broadcast media practice in Nigeria was largely conducted through traditional and analogue technologies. Given the huge advantages offered by the digital technologies, a number of Nigerian critics, media practitioners and government officials have persistently stressed the need, nay imperativeness for Nigeria to get the whole of her broadcast media industry adapted to the prevailing digital revolution. An official of the Nigerian Broadcasting Commission (NBC) [quoted by Ocholi] poignantly argues that: “the truth of the matter is that television and radio stations do not have a choice. Nobody has a choice. If we do not migrate from analogue to digital, we will end up being in the dark. It is in everybody’s interest to migrate [...] If Nigeria does not want to be left behind, it has to follow the rest of the world” [17, p.4]. In the same line of argument, Dokpesi Raymond (a media owner) [quoted by Akinreti *et al*] notes the imperativeness for Nigerian media owners to join the moving train of digitalization. He pointedly argues that “you cannot transmit on analogue platform to digitized nations. If you must

remain competitive, you must acquire the latest technology to be relevant” [4, p.91]. Based on these premises and some other pertinent motives, a number of strategies have been initiated since 2001 to accomplish the digitization of media broadcast in Nigeria. In 2007, the Federal Government of Nigeria (precisely the administration of late President Musa Yar'Adua) mandated the National Broadcasting Commission (through the Presidential Advisory Committee [PAC] on Broadcasting and Digitization) to pilot the country's migration from analogue to digital broadcasting. The commission was charged with the following responsibilities:

- i) Design a policy on transition using best practices
- ii) Recommend appropriate legislation regulatory and licensing framework for digital broadcasting
- iii) Recommend government input and subsidy
- iv) Recommend what happens to the freed spectrum, discarded analogue equipments and television boxes;
- v) Discuss the environmental impact of such discard and
- vi) Consider consumer education [18, p.7].

The Commission's recommendations on digitization (embedded in its report) were submitted to the Government in 2009. Government later elaborated and issued a “White Paper” based on the commission's report. This White Paper canvasses for the separation of the function of the broadcast content providers from that of the signal distributors. The above mentioned report actually paved the way for the institution of two categories of broadcast license in the country namely the broadcasting license and the broadcasting signal license. These efforts by the Nigerian government are today enabling the licensing and monitoring of digital radio and television broadcast in Nigeria.

Besides, moves towards planning, licensing and monitoring digital broadcast in the country, a number of other milestones have been recorded by the Nigerian media sector in its march towards complete digitalization. In effect, a considerable number of radio and television channels have embraced online/web broadcasting. Such stations have introduced digital contents such as webcasts into their respective news and programs. To this category of media outfits, one may mention private radio and television stations such as Brilla FM and Cool FM which, together with government owned Radio Nigeria (Ibadan) and Eko FM represent the four first stations to have embraced digital broadcasting. These stations broadcast online on websites such as www.radionigeria.org, www.voiceofnigeria.org, www.radiolagosekofm.com, www.channelstv.com, and www.nta.org. In the same line of argument, a remarkable citizen journalism is now performed through a panoply of websites notably saharareporters.com, gamji.com, elendureporters.com, kweni.com, nigeriaworld.com, odili.net, biafranigeriaworld.com, nigeriansinamerica.com and ukpakareports.com among others. Tsaaio notes the spectacular manner with which digitalization has become a buzz word and a new tradition in the Nigerian media space when he insightfully contends that:

Like a big elephant which is slow in commencing its journey but unstoppable as soon as it finally embarks on it, Nigeria has made tremendous progress in the digitalization of media practice since the 1990s. From a relatively weak position of invisibility on the Internet to a global presence and reckoning, many Nigerian media organizations are positioned to compete actively and positively in a globalized media system which thrives on new media technologies and virtual community [...] As part of the digitalization process of the Nigerian media through new media forms, traditional and analogue professionals have also bought into the innovations and services offered by the Internet, the electronic mail and websites that generate news. [16, p.135-136]

The entrance of cable and satellite pay TV stations such as HiTV, Multichoice, DSTV and Startimes among others have intensified the seriousness and efforts of Nigerian media stations towards digitalization. Satellite pay TV stations such as Startimes have introduced the Digital Terrestrial Television (DTT/DTTV) system which has later been upgraded to be the DVB-T2 (the latest version of the technology), in the whole country. This technology permits Nigerian subscribers to have more – or a myriad – of channel options (more than 70 channels). The DVB-T2 is therefore conceived to prepare Nigerian subscribers to the digitalization era. Through a number of partnerships with local media (for instance with the state owned Octopus-Nigerian Television Authority [NTA]), Startimes has successfully deployed the Digital Satellite Television services to provide a wide range of news and programs to Nigerian homes. Akinteri *et al* commend the valuable contribution of Startimes to the digitalization process in Nigeria when they note that: “besides providing subscribers more channel options through [its] latest technology [the

DVB-T2], the brand [Startimes] has also thrown its doors open to local TV stations to join in the digitalization process on its platform. For instance, some local stations already include Galaxy TV, Silverbird, NTA Channels, LTV, Kwara TV, and EWTN to mention a few” [4, p.93].

As a DSTV platform, Multichoice has, on its part, introduced the convergence of digital broadcasting of TV and audio feed to a mobile phone. This was done through a partnership involving Details Nigeria and MTN Nigeria (a mobile telephony operator). Similarly, another telecommunication operator and Internet service provider Globalcom, has initiated a project to introduce a triplet-play service including high speed internet, TV and telephone that will ameliorate the reception by its subscribers of Silverbird TV signals. It could be observed from the above discussed strategies that tremendous efforts are been made by both the Nigerian government and the media houses to effectively realized the country’s migration from analogue to digital media broadcast. In a study conducted to ascertain the level of computer usage in the nation’s broadcast industry and identify the reasons responsible for the given level of computer application among 147 broadcasters drawn from the Federal Radio Channels of Nigeria (FRCN) and Ray Power radio, Agbenso found out that:

- i) There have been tremendous improvements in the work of some broadcasters since they began to apply computers to their job of news/programs sourcing, packaging and reporting. Ninety-six per cent of the broadcasters in FRCN and Ray Power agree to this.
- ii) Broadcasters in the private sector have more access to computers and internet facilities than their counterparts in the public sector. The ratio is 46% to 43% for computer availability, 97% to 54% for online access both in favor of Ray Power.
- iii) Broadcasters in the private sector are generally more amenable to Computer Assisted Journalism. It is noteworthy that only 45% of Nigerian broadcasters have access to computers when we compare the number of broadcasters with the number of computers that are available in the two media houses sampled. In FRCN only 43% have access while only 46% have access to computer in Ray Power. This is an insignificant result which can be explained by the fact that computer usage is still an evolving practice among Nigerian broadcasters.
- iv) Broadcasters in both private and public sectors in Nigeria have showed significant willingness to embrace computer assisted broadcasters. Cumulatively 93% of Nigerian broadcasters use computers in one way or the other. When this is viewed against the finding that only 45% of them actually have access to computers, it means that many of them still go to public cafés to do their job. Where they have in their offices, many of them scramble over the few and inadequate computer units.
- v) The year 2000 marked a turning point for Computer Assisted Reporting (CAR) in Nigeria as many broadcasters began to embrace computer usage on the job.
- vi) Generally, there was a direct improvement resulting from the application of computers to broadcasters by professionals in the country. The use of computers by FRCN and Ray Power staff has been able to bring about better production for their radio broadcasting activities. Nevertheless, it is worrisome that only 45% of Nigerian broadcasters have access to computers. [19]

Despite the remarkable efforts made by both the government and other actors of the digitization scheme in Nigeria, a lot still needs to be done. In effect, access to digital broadcasting platforms is still largely contained within pay-TV networks, and free-to-air digital broadcasting is still basically embryonic [20- 21, p.6]. One other area in need of serious adjustments is the effective sensitization of the audiences on the different stages and the process of digitization. Though the Nigerian Broadcasting Commission (NBC) leaflet on digitization advises television audience to check the compatibility of their television sets with digital broadcast signal – by considering information provided on TV manuals, instructions or product information on TV sets, or by visiting the web site of the manufacturer – there is still a great lack of awareness of the digitization process among audiences. This of course creates a situation where by the process of digitization is retarded and handicapped by people (especially audiences from the grass root/rural areas), who are totally ignorant of the process and implications of the digitization scheme for instance the need to possess a set-up box to effectively receive digital signal.

V. CHALLENGES TO THE PROCESS OF DIGITIZATION IN NIGERIA

Nigeria's digital migration has been– and is still - faced with serious challenges. These challenges include a variety of phenomena including the lack of fund, the lack of skilled (computer literate) manpower, knowledge gap (poor audience sensitization on digitization process), the slow elaboration of a working legal framework for the digitization process and the apparent lack of enthusiasm from the government among others. It has for instance been observed that the Nigerian government has visibly not maintained the same zeal at all stages of the digitization process. The enthusiasm manifested by the late President Musa Yar Adua's administration from the onset of the process seemingly kept reducing as years went by. This factor, coupled with others – notably Nigerian bureaucracy, the resignation of the Minister of information and Communication (Prof. Dora Akunyuli), the lukewarm attitude of media operators, the prohibitive cost of the digitization project especially for state media organizations – caused the initial deadline of the switchover to be postponed three times. These challenges equally caused some unnecessary delay in the definition of a legal framework for the digitization scheme. In line with this, there was a delay in the release of the White Paper on the report of the Presidential Advisory Committee (PAC) on Transition from Analogue to Digital Broadcasting, a document which seeks to provide vital parameters (a framework) for the accomplishment of the project. Akinreti *et al* point Nigerian Government's responsibility to the slow nature of the process of digitization when they note that: "the dominant belief in the broadcasting industry today is that Nigeria's digital migration plan is one of the casualties of the death of President Umaru Yar'Adua in May 2010, as the succeeding administration practically went to sleep with no action taking place on the process" [4, p.96]. As of now, the Nigerian Government has simply supported and facilitated the realization of the necessary background planning, including licensing of manufacturers for the production of Set-Top-Boxes (STB); transmission carriers; Signal Distributors, among others strategic tools. However, clear political will – symbolized by the procurement of the necessary funding to support the digitization process – is yet to be manifested (by the Nigerian Government). The lack of such a financial support from the government is identified as one of the principal factors which have hampered the effective digitization as earlier planned in January 2015. It is even anticipated in some quarters that such an absence of government funding might ultimately hampered the materialization of the December 2017 target. The present head of the Presidential Advisory Committee (PAC) Edward Amana (quoted by Adeyemi) expresses such skepticism when he pointedly notes that:

The purported December 2017 extension by Nigeria was never an ITU idea. This is because when you don't have funds at hand, you don't have any plan. The new date is mere speculation. You can only set a deadline when you are sure of funding. When the fund is at hand, then you can fix a date. As at now, there is no single penny released by the Federal Government towards the transition. The last government didn't even consider it, so funding stalled all the processes. Government didn't release fund, not even a penny to do the crucial campaign and public awareness that will drive the project. [22, p.35]

The digitization process in Nigeria has therefore been faced with serious financial challenges. In effect, huge financial sacrifices are naturally required to fully acquire the digital technology so as to totally revolutionize both production and transmission of programs. Both new entrants in the Nigerian broadcasting industry and government owned broadcast organizations – notably the Nigerian Television Authority (NTA) and the Federal Radio Corporation of Nigeria (FRCN) – have been compelled to deploy enormous resources to surmount the constraint. These stations have been compelled to pay as much as about 3 million Naira per trimesters, for their respective bandwidths and Internet access (Akinteri cited in Agbenson) [19]. As poignantly remarked by Agbenson, efforts by most Nigerian media houses towards digitization have mainly been an attempt at insufficiently imitating their Western counterparts [19]. Such attempt at 'rubbing shoulders' with the Western media has virtually stopped just with the internet sites which some of the Nigerian media organizations have been able to set up. Other vital facilities and resources are still largely unavailable to Nigerian journalists. These resources include equipments such as company sponsored laptop computers with mobile internet access, digital recording devices, open access mobile telephones, well equipped and functional news rooms fitted with state-of-the-art multi-media equipments. To this

wide range of facilities could be added the provision of salaries and working conditions that will take into consideration global trends, market prices and national inflation rates.

Similarly, the audiences are still faced with the same financial constraint as viewers without digital complaint sets need to disburse relatively heavy sums of money to acquire a Set-Top Box for digital TV signal or a High Definition Television. Given the fact that a STB and a HDTV are estimated respectively at \$110 and \$1,000 to \$16,000 [4, p.95; 7, p.42], the serious financial implications can be said to be a non-negligible challenge to the effective completion of the digitization process in the country. Another non-negligible challenge is that of manpower and skilled media personnel to operate the new and fragile digital equipments in the various media organizations. This situation calls for adequate training of the existing computer illiterate personnel of media houses or the recruitment of computer literate ones. All this strategies (capacity building and recruitment of computer literate media personnel) is not without (marginal) financial and technical implications. It is viewing these negative implications and challenges of digitization that Chalaby and Segell contend that:

The digitization of television has considerably increased the sources of uncertainties and the level of risks for the rapidly expanding number of players involved in broadcasting. Although there exist certainties in broadcasting, such as the fragmentation of audiences and the globalization of the field, many developments are still open-ended and very few analysts can predict the direction they will take. Furthermore, even though some future features of broadcasting are clear for all to see, most market players are unsure about their own future in broadcasting. They are uncertain how to relate to both predictable and unpredictable developments, and are aware that they need to take risks and tough decisions if they are to prosper in the time ahead. [23, p.352]

Another challenge closely connected with the above mentioned constraints is the ineffective sensitization of Nigerian audiences to the technical and financial implications of the digitization process. This ineffective sensitization is responsible for the lack of awareness among audiences on the implications of digital migration. Few months after the ITU's deadline for the switchover to digital, only a negligible few can be said to be actually aware of the migration deadline or the strategies in place to ensure that audiences are not cut-off from television viewing in the country. Though the digitization scheme has already progressed to a crucial stage, many Nigerians – especially illiterate audiences and rural area dwellers – are still unaware of the *Nitti gritty* of the process. This is seriously hampering effective digitization as the process is unnecessarily drawn back by audiences who do not grasp the various implications of the process.

VI. CONCLUSION

This paper has assessed the strategies initiated by both the Nigerian government and other major stakeholders or actors of the broadcast media industry in Nigeria in the complex process of digitization. It has argued that Nigeria's march towards complete digitization is still on. A number of milestones have been recorded. These include the definition of a legal and operational framework for the digitization process, the introduction by multiple media houses of webcasting and the entrance in the country's broadcasting industry of cable and satellite pay TV operators; the licensing of manufacturers for the production of Set-Top-Boxes (STB), transmission carriers, Signal Distributors, among others pre-requisites the digitization. Despite these considerable efforts, there is still much to be done, especially in the domain of the sensitization of audiences over the technical and financial implications of digitization. The paper has identified a series of challenges to the process of digitization in Nigeria including the lack of fund, the lack of skilled manpower, knowledge gap (poor audience sensitization on digitization process), the slow elaboration of a working legal framework for the digitization process and the apparent lack of enthusiasm from the government among others. Based on the numerous observations made in this paper, it may be recommended that:

- i) Government ensures enhanced delivery of digital broadcast equipments by removing all tariffs on these equipments and where possible, mandates their assemblage in the country. This will make the equipments generally affordable and easy to acquire.

- ii) Relevant training and educational programs in the use and management of digital technology be conceived and used as strategies to build the capacity of media personnel in the country. This will enable the presence of a skilled manpower to operate the digital equipments.
- iii) The Nigerian government should accept to make sufficient financial sacrifices to entirely support the process. Additionally, it should, together with other main actors of the digitization scheme, embark on well coordinated sensitization campaigns (particularly in the rural areas of the country) to make the audience be aware of the stages and implications of digitization. Such campaigns should involve the use of vernacular and vehicular to permit the greatest number of people to be effectively sensitized.

At barely six months after the global switchover deadline, it is still difficult to determine in a categorical way, to what extent the Nigerian broadcast media have gone digital. It is equally difficult to determine the exact strata of the Nigerian audience which is effectively sensitized and ready for the digital switchover. A number of efforts have been made to facilitate the process of digitization. However, more is still to be done. The digital migration is undoubtedly a gradual process. In Nigeria, this process has been – or is still – slow. The process will likely take ample time to be effective.

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